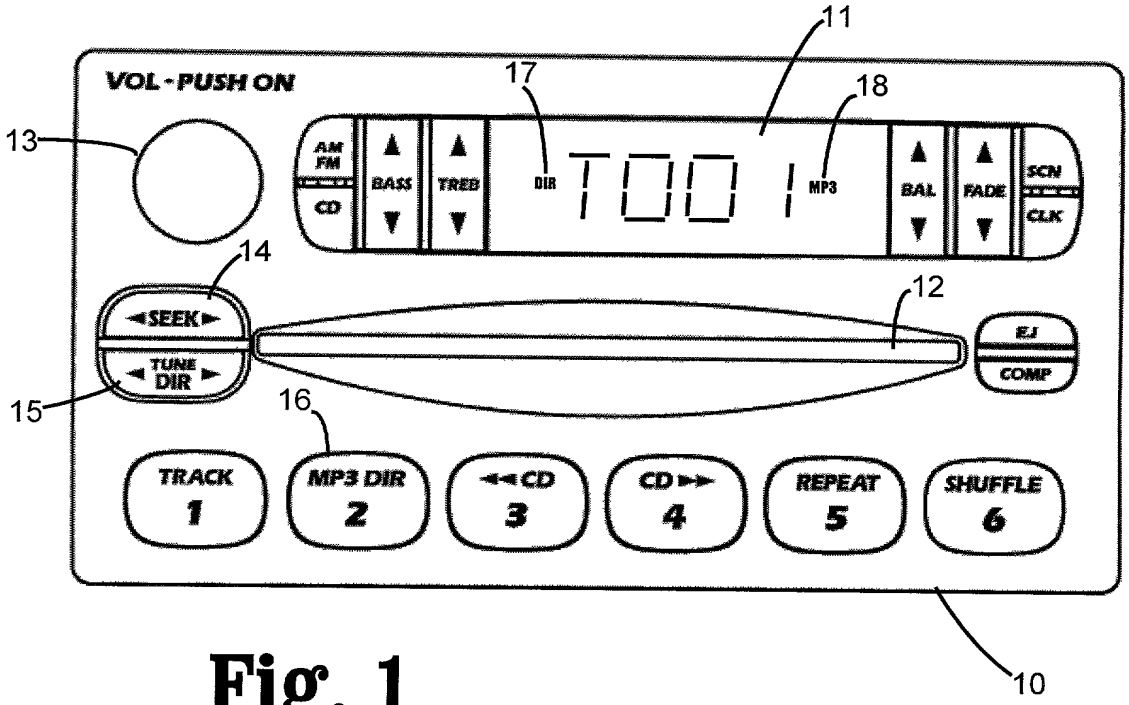
VOL - PUSH ON
AM FM
CD
BASS
TREB
DIR
T01
MP3
BAL
FADE
SCN
CLK
SEEK
TUNE DIR
EJ
COMP
TRACK 1
MP3 DIR 2
◄◄CD 3
CD ►► 4
REPEAT 5
SHUFFLE 6
10
11
12
13
14
15
16
17
18

Fig. 1

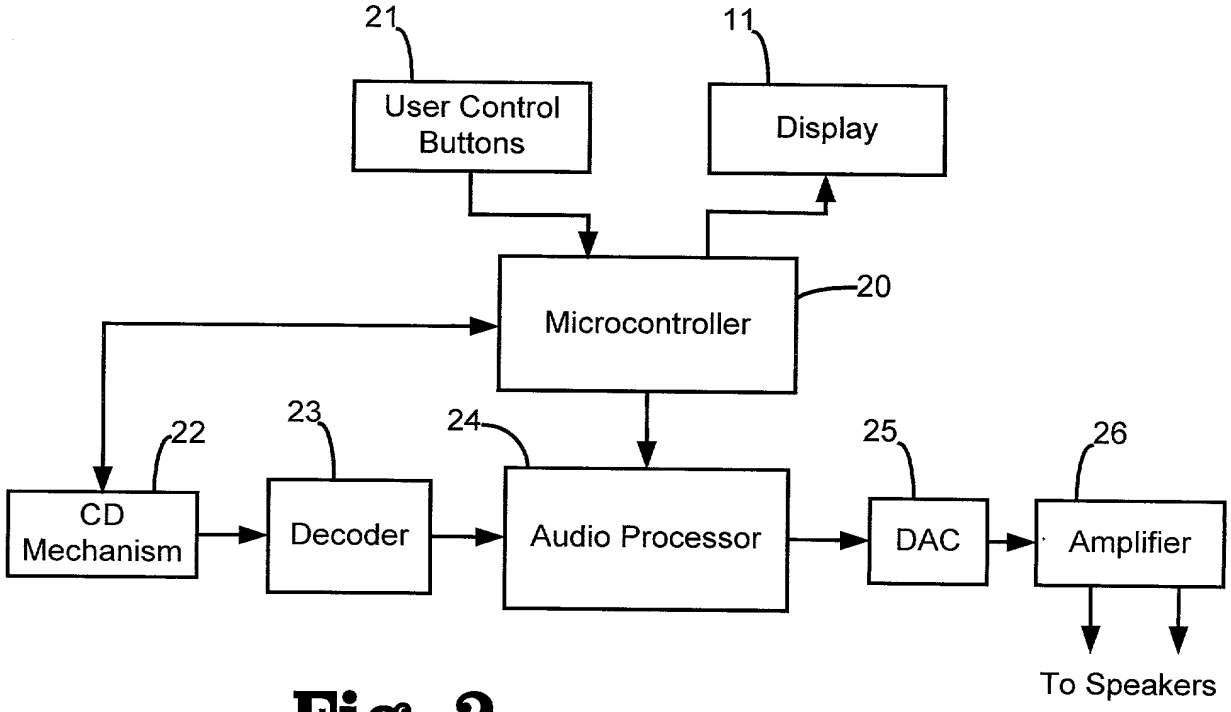
User Control Buttons
Display
Microcontroller
CD Mechanism
Decoder
Audio Processor
DAC
Amplifier
To Speakers
20
21
22
23
24
25
26

Fig. 2

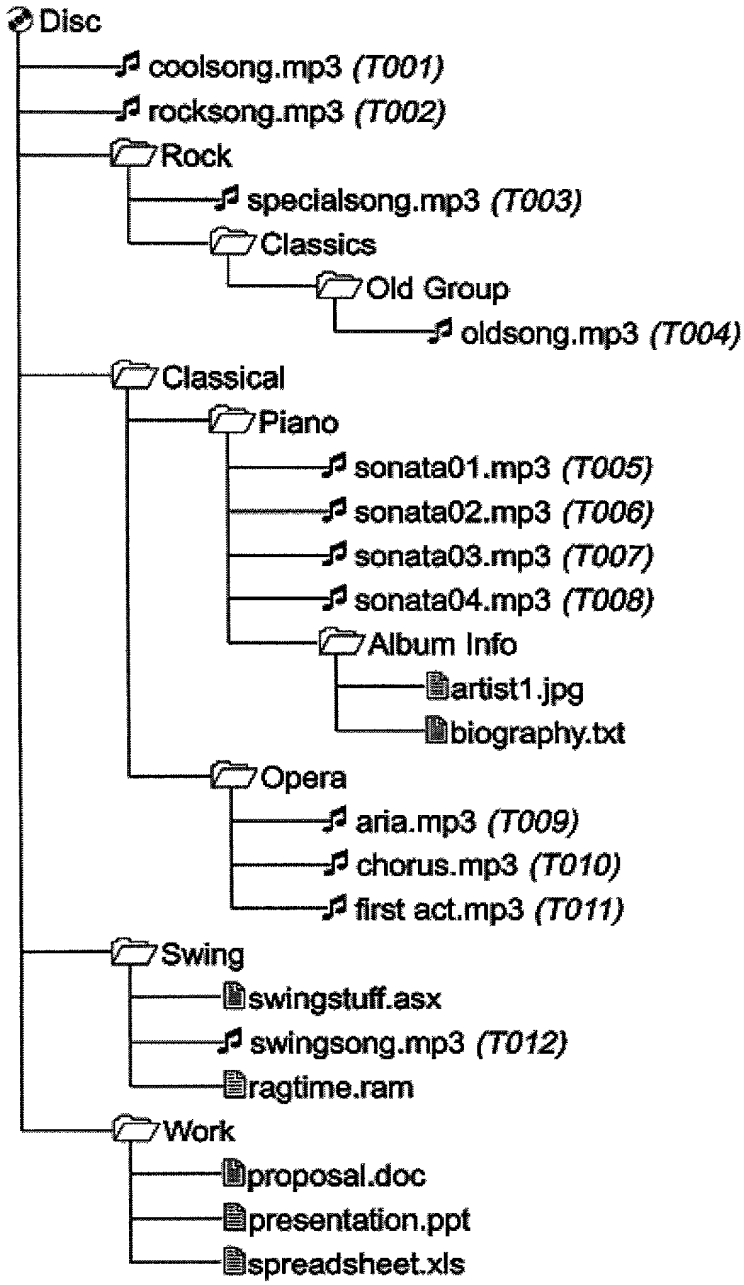
Disc
coolsong.mp3 (T001)
rocksong.mp3 (T002)
Rock
specialsong.mp3 (T003)
Classics
Old Group
oldsong.mp3 (T004)
Classical
Piano
sonata01.mp3 (T005)
sonata02.mp3 (T006)
sonata03.mp3 (T007)
sonata04.mp3 (T008)
Album Info
artist1.jpg
biography.txt
Opera
aria.mp3 (T009)
chorus.mp3 (T010)
first act.mp3 (T011)
Swing
swingstuff.asx
swingsong.mp3 (T012)
ragtime.ram
Work
proposal.doc
presentation.ppt
spreadsheet.xls

Fig. 3

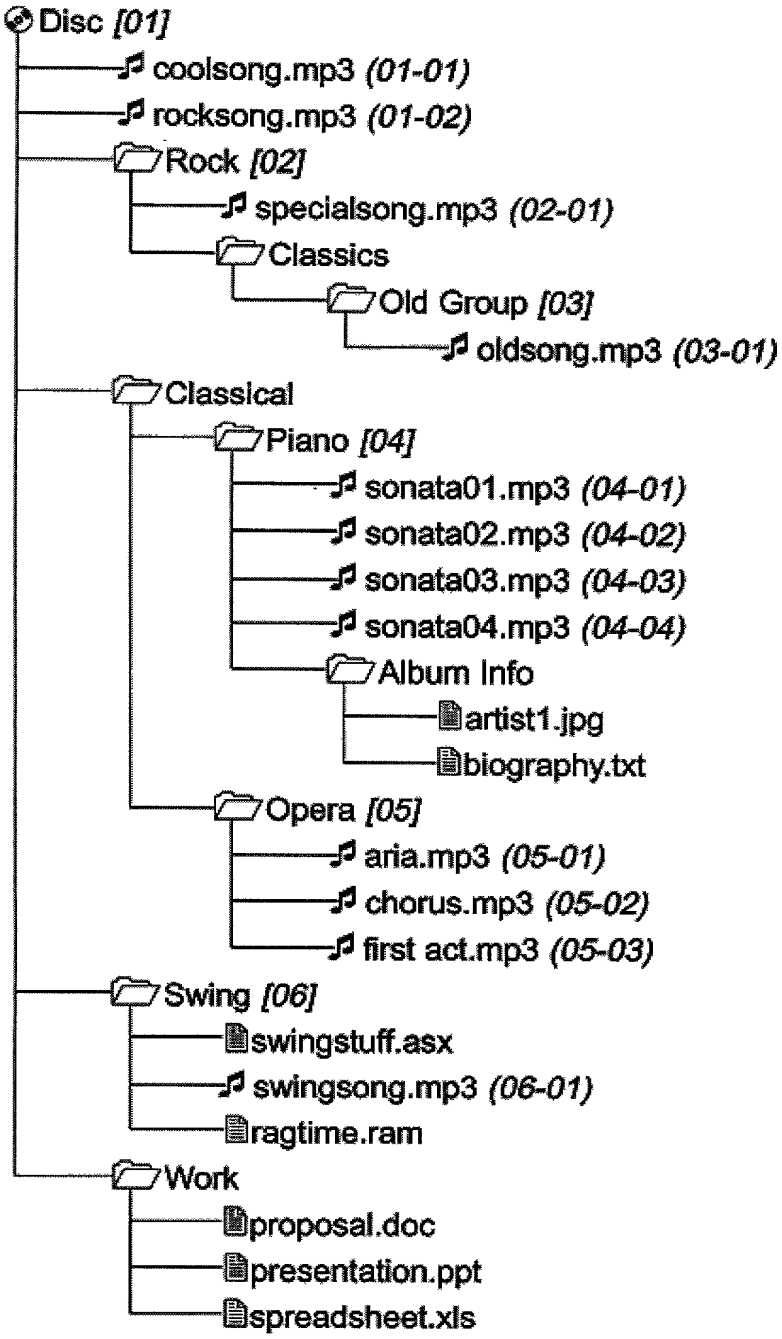
Disc [01]
coolsong.mp3 (01-01)
rocksong.mp3 (01-02)
Rock [02]
specialsong.mp3 (02-01)
Classics
Old Group [03]
oldsong.mp3 (03-01)
Classical
Piano [04]
sonata01.mp3 (04-01)
sonata02.mp3 (04-02)
sonata03.mp3 (04-03)
sonata04.mp3 (04-04)
Album Info
artist1.jpg
biography.txt
Opera [05]
aria.mp3 (05-01)
chorus.mp3 (05-02)
first act.mp3 (05-03)
Swing [06]
swingstuff.asx
swingsong.mp3 (06-01)
ragtime.ram
Work
proposal.doc
presentation.ppt
spreadsheet.xls

Fig. 4

Path to Track	Flat File No.	Directory No.
\coolsong.mp3	T001	01-01
\rocksong.mp3	T002	01-02
\Rock\specialsong.mp3	T003	02-01
\Rock\Classics\oldsong.mp3	T004	03-01
\Classical\Piano\sonata01.mp3	T005	04-01
\Classical\Piano\sonata02.mp3	T006	04-02
\Classical\Piano\sonata03.mp3	T007	04-03
\Classical\Piano\sonata04.mp3	T008	04-04
\Classical\Opera\aria.mp3	T009	05-01
\Classical\Opera\chorus.mp3	T010	05-02
\Classical\Opera\first act.mp3	T011	05-03
\Swing\swingsong.mp3	T012	06-01

Fig. 5

Button Press	Display
	T001
Seek-Up	T002
MP3 DIR	01-02
DIR-Down	06-01
DIR-Down	05-01
Seek-Up	05-02
MP3 DIR	T010
Seek-Down	T009
Seek-Down	T008
MP3 DIR	04-04

Fig. 6

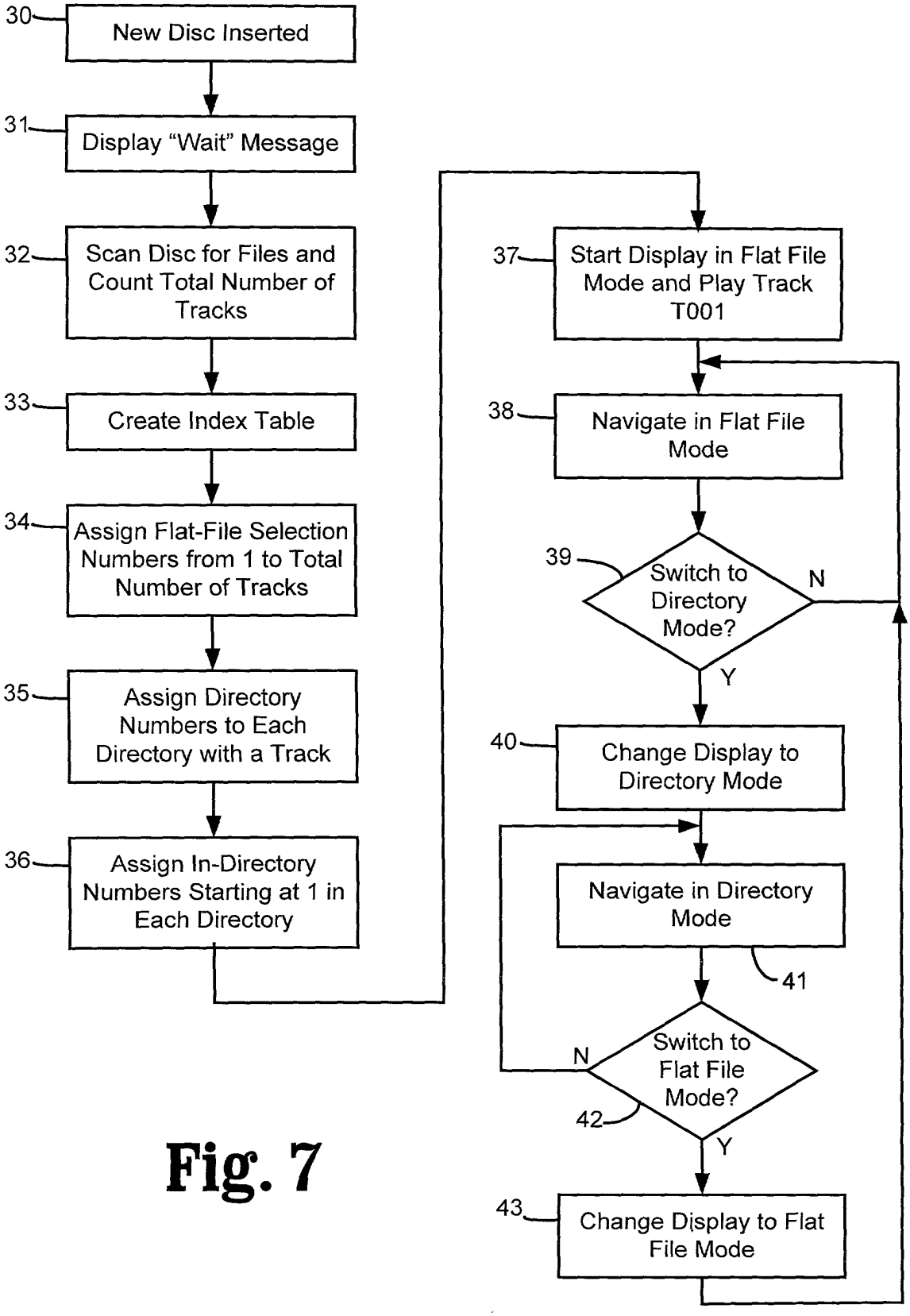
30
New Disc Inserted
31
Display "Wait" Message
32
Scan Disc for Files and Count Total Number of Tracks
33
Create Index Table
34
Assign Flat-File Selection Numbers from 1 to Total Number of Tracks
35
Assign Directory Numbers to Each Directory with a Track
36
Assign In-Directory Numbers Starting at 1 in Each Directory
37
Start Display in Flat File Mode and Play Track T001
38
Navigate in Flat File Mode
39
Switch to Directory Mode?
N
Y
40
Change Display to Directory Mode
Navigate in Directory Mode
41
Switch to Flat File Mode?
N
42
Y
43
Change Display to Flat File Mode

Fig. 7